

WHAT IS CLAIMED IS:

1. A bipolar transistor-based ESD protection structure comprising:
a semiconductor substrate;
a bipolar transistor disposed in and on the semiconductor
substrate, the bipolar transistor having a base region, a collection region and a
polysilicon emitter; and
a heat sink region disposed above the semiconductor substrate
adjacent to the polysilicon emitter.
2. The bipolar transistor-based ESD protection structure of claim 1,
wherein the heat sink region is formed of polysilicon.
3. The bipolar transistor-based ESD protection structure of claim 1,
wherein the heat sink region is formed of a metal selected from the group
consisting of copper, aluminum, alloys of aluminum, titanium and combinations
thereof.
4. The bipolar transistor-based ESD protection structure of claim 1,
wherein the heat sink region is a floating heat sink region.
5. The bipolar transistor-based ESD protection structure of claim 4,
wherein the heat sink region is disposed within 2 microns of the polysilicon
emitter.
6. The bipolar transistor-based ESD protection structure of claim 1
further including:
a metal emitter contact to the polysilicon emitter, and wherein
the heat sink region is integrated with the metal emitter contact.
7. The bipolar transistor-based ESD protection structure of claim 1,
wherein the bipolar transistor is in a grounded base configuration.

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8. The bipolar transistor-based ESD protection structure of claim 1, wherein the bipolar transistor is in a Zener triggered configuration.

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